

Abstract

A white X-ray generating means (2) and an X-ray detecting means (3) are respectively moved to a first position (shown by a solid line in the Fig.) and a second position (shown by a one-dot-chain line in the Fig.) that are separated, X-ray intensities, for each energy, detected at respective positions by the X-ray detecting means are obtained as first data and second data, a third data, that is refraction-X-ray-only data, is obtained based on the difference between the first data and the second data, and data about fluorescent X-ray is obtained from the difference between the first or second data and the third data.